

## **PART 723 - 4: RISK ELEMENTS AND RESPONSE**

### **4-1 VULNERABILITY OF THE WATER SYSTEM**

Potable water supply emergencies may result from any natural or man-made event such as floods, hurricanes, earthquakes, tornadoes, hazardous substance spills, mechanical or dam failure, or civil disorder, which disrupt the supply system. These events may result in pollution or contamination of water supplies, prolonged power outages, transmission or distribution system failure, or other structural damage causing a disruption of service, and/or water shortage. Table 723-4(1). A Disaster-Effect Matrix was developed by members of the Advisory Committee on Water Emergencies and used as the basis for identifying critical risk areas addressed herein. The matrix combines a list of events and results of possible situations where the state may play a role in water emergency response.

Addressing the principal issues and fundamental needs in a crisis situation depends on a reliable response from emergency personnel. In many circumstances, the local water supplier will be among the first to acknowledge an incident, as suppliers are equipped with alarm systems for mechanical and power losses and normally monitor water volume and pressure in the transmission and storage system. It is primarily the responsibility of the water supplier to notify its customers as well as the Department of Health when drinking water standards are violated and assistance is needed.

For the purposes of this plan, the causes of emergencies and their impact on water systems as shown in the matrix, have been categorized as five major kinds of incidents, each defining a crisis element and appropriate response. The items listed in each section assign responsibility and identify actions to be carried out by state and local agencies. Noted actions are intended to occur concurrently and are not necessarily in order of priority. The categories are as follows:

- Hazardous Materials Accidents
- Contamination
- Mechanical Failure
- Power Failure
- Water Shortages

Flow charts, following each section outline emergency response actions to be taken for each crisis element.

Varying degrees of emergency response depend on the scope of a situation and type of disaster or crisis. Systematic guidelines for response action help determine who should be notified and define who is in charge at various stages of an emergency, as well as actions and activities of responsible parties. Water suppliers and local government resources can often be adequate, however, planning for and anticipating emergency conditions will always yield a more reliable outcome.

Twenty-eight water suppliers in Rhode Island should have emergency response plans on file with Water Resources Board. Suppliers are obligated to develop plans under "Rules and Procedures for Water Supply System Management Planning." It is expected that water suppliers will promptly implement emergency components of their plans if the situation is beyond standard operating or routine response procedures. State involvement is intended to support local water supply response efforts and coordinate additional assistance to municipalities and water suppliers when the scope of the emergency is beyond the ability of the water supplier and the municipality to respond.

This plan is intended as a guide for responding to water emergencies regardless of system size. In this respect, however, the plan recommends actions that may not be suitable to all emergency conditions dependent on system size and the number of persons affected. In every case, qualified judgment is necessary to predict the scope of an incident, and to assess the available options for mitigation of impacts. Water suppliers, municipal officials, state department directors, or the Governor may serve in this decision- making capacity dependent on the scope of the incident. It is the intent of this plan to specify roles for the levels of each incident, which can be undertaken as emergencies occur.

Table 723-4(1) A Disaster Effect Matrix

A DISASTER - EFFECT MATRIX										
INTERRELATIONSHIP BETWEEN MOST PROBABLE DISASTER OCCURRENCES AFFECTING RHODE ISLAND WATER SYSTEMS										
EFFECT DISASTER	Structural Failure of Dam	Break in main transmission line	Pro- longed Power Outage	Contamination of Distribution System	Source Contamination	Work Stoppage or Strike	Disruption of Sanitary Service	Loss of Fire Protection	Loss of Ability to Communicate w/ Public	Storage Tank Damage
Earth- quake	•	•	•	•	•	•	•	•	•	•
Hurricane or Major Storm		•	•	•	•	•		•	•	•
Flood	•		•	•	•		•			
Vandalism or Sabotage	•	•		•	•		•	•	•	•
Hazardous Spill or Industrial Discharge				•	•	•				
Tornado	•		•					•	•	•
Plane Crash				•	•					
Civil Disorder or Labor Shortage			•			•		•		
System Malfunction or Failure	•	•	•	•	•		•	•		•

Source: Governor's Advisory Committee Water Emergencies, 1992.

## **4-2 THE INCIDENT COMMAND SYSTEM (ICS)**

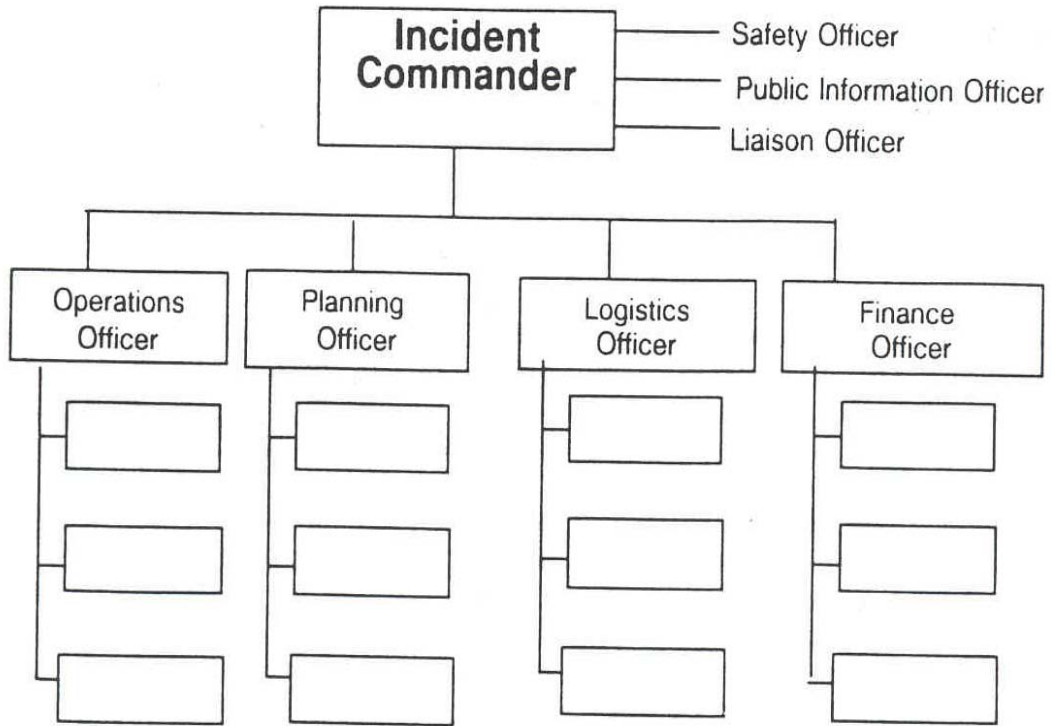
Many procedures have been developed to address command and control of resources at emergency incidents. Among them is the Incident Command System [ICS], which has noted success and is a documented system used and endorsed by the Occupational Safety and Health Administration EPA at hazardous material accidents.

The Incident Command System is designed to begin at the time the incident occurs and continues until a need for management and operations no longer exists. The incident commander is the senior on-scene official with authority over the major focus of the incident. The "Incident Commander" (IC) is a title that can equally apply to a senior fire department official or the chief of a department of a state or municipality, depending upon the situation. The structure of the ICS is established and expanded depending upon changing conditions of the incident. It is staffed and operated by qualified personnel from various emergency response agencies (National Emergency Training Center -- NETC, 1989).

The ICS organizational structure, as depicted in Figure 723-4(1) develops and proceeds from the top down at any incident. Five functional areas, which are implemented as the need develops, are: Command, Operations, Logistics, Planning, and Finance. Specific ICS organizational structure for any incident is based on the incident's management needs. For example, a simple incident may not require many personnel. However, a complex incident may require staffing sections to manage each major functional area and may require delegating management functions (NETC. 1989).

As such, the Incident Command System is adaptable and may be utilized for any type or size of emergency ranging from a minor incident involving a single response unit to a major emergency that involves several agencies. The ICS enables inter-agency communication using common terminology and operating procedures, and it allows timely combining of resources during an emergency. This toolbox approach is featured in the flow diagrams that accompany the narrative descriptions of each potential risk element. Dotted lines between elements in the organizational structure indicate positions which may not be required dependent upon the scope of the incident.

**Figure 723-4(1) Incident Command System Framework**



Source: The National Emergency Training Center, 1989.

Not all ICS procedures perfectly fit all agencies, nor does the ICS system need to be implemented fully in all situations. A system is necessary, however, that allows all appropriate parties to work together toward a common goal in an effective and efficient manner with a realization of who is in charge. Therefore, built into the ICS is recognition that as the scope of an incident changes, the incident commander may be replaced to accommodate the level of assistance and coordination required. The ICS provides for the orderly transfer of command as the intensity of an incident changes.

- Incident Safety Officer
- Commander Public Information Officer Liaison Officer
- Operations Planning Logistics Finance Officer

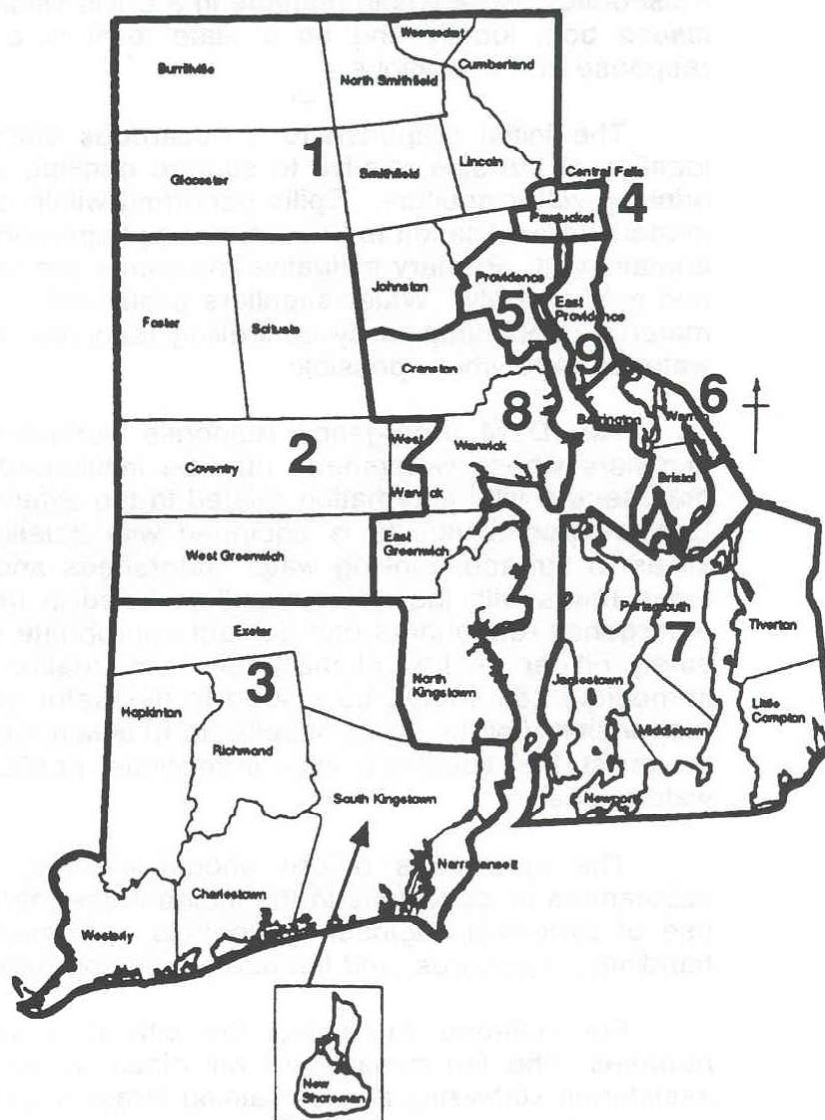
Organized and efficient response in a disaster is dependent on cooperation between on-scene personnel and the incident commander. Particular expertise from off-scene personnel is often necessary, and the Rhode Island Emergency Management Agency (RIEMA) is charged with the logistical responsibility to mobilize state telecommunications vehicles and assist in obtaining additional information, equipment, and resources.

The ICS also designates a role for a public information officer who is the key spokesperson and coordinates all public information to the media. Most often, this is the incident commander; however, in disasters of a larger scope it may be a municipal or state official. All contact with the press and communications should be directed through this person; should the level of disaster escalate, then the public information officer will likely move up within the hierarchy.

Rhode Island has established a State Emergency Response Committee (SERC), which has regionalized the state into nine districts for hazardous materials (Haz-Mat) emergency response. SERC policy complies with federal Haz-Mat regulations and assigns key personnel in each of the districts to serve on Local Emergency Planning Committees (LEPC). Table 723-4(2) lists SERC Hazardous Material Planning Districts and identifies regional LEPC Chairmen as of December 1992. In Rhode Island, the SERC has recommended adoption of the incident command system for all Haz-Mat emergencies.

### Table 723-4 (2) Hazardous Material Planning Districts

Northern  
Western  
Southern  
Pawtucket



Providence  
East Bay  
Islands and South East  
West Bay  
East Providence

### **4-3 HAZARDOUS MATERIAL RELEASES**

Rapid response to a spill, leak, or industrial or chemical discharge is critical notwithstanding whether the discharge is accidental, intentional, or caused by natural disaster. Containment and clean up of releases is usually within the scope of responsibility and capability of local government. Beyond a certain magnitude, however, the state responds with assistance and directives that they are mandated to issue in compliance with state and federal laws.

Hazardous releases are categorized into four levels, each with a higher magnitude of risk to a water supply. An incident commander is designated for each level, as are associated tasks and subtasks within each situation. As is inherent to dynamic events, the outlined assignments are intended to be adaptable to specific circumstances of crisis situations. Those in charge must use their experience to evaluate and classify further detailed activities. Foresight in limiting the extent of impact to drinking water is one of the most critical variables to manage in a crisis situation. Developing a plan to address these issues both locally and on a state level is a first step in awareness of appropriate response and operations.

The initial response to a hazardous discharge must include identification of the location of the spill relative to surface drinking water watersheds and recharge areas of drinking water aquifers. Spills occurring within or adjacent to these locations will require immediate notification to key water supply personnel and may require different methods of containment. Primary mitigative measures are essential to protect drinking water supplies and public safety. Water suppliers assist with protection of critical areas from hazardous material contamination by controlling reservoir intake, shutting off valves, and increasing water storage where possible.

The DEM emergency response personnel are responsible for notifying water suppliers whose watersheds may be influenced by the hazardous release so that they may secure vital information related to the extent of the problem and its mitigation. Each DEM response vehicle is equipped with detailed statewide maps delineating recharge areas to surface drinking water watersheds and wellhead delineations. By referencing these maps with the water suppliers listed in the Emergency Resource Directory, DEM emergency responders can contact appropriate water supply personnel. Should a public safety officer be first at the scene and realize a threat to drinking water supplies, an immediate call should be placed to the water supplier and the DEM. As it remains the responsibility of the water supplier to maintain supplies, the state should make every effort to assist the suppliers with immediate notification of any potential hazards within watersheds.

The operations officer should identify, to the extent possible, all hazardous substances or conditions to the incident commander. The incident commander oversees use of structural engineering controls, maximum exposure limits, hazardous substance handling procedures, and the use of any appropriate technologies.

For instance, the senior fire official is generally the IC in charge of hazardous releases. The fire department will clean up any small releases but calls the DEM for assistance stabilizing and containing larger releases. If the DEM evaluation determines a need for the emergency containment contractor, then the fire chief would relinquish IC to the DEM, as fire equipment and resources would no longer be needed. However, if the contractor is not mobilized, the fire official remains incident commander with authority over clean-up operations and safety.

This scenario is reflected in the following sections that describe the four levels of response in a hazardous material release. At levels I, II and III the fire official is incident commander unless the DEM or its contractor participates in containment and clean up with their own equipment and resource personnel. A level IV incident occurs when a hazardous release presents an immediate risk to public health. Although coordination with the Department of Health is necessary, the first stages of response will remain the same as in lower levels. The IC will transfer to the DOH after containment of the release is under control.

A hazardous material accident is a unique type of crisis in that federal laws require specific actions and response measures to be taken by state and local personnel. While all 39 Rhode Island communities have draft emergency operations plans in place, only a few have fully approved emergency response plans for hazardous material accidents as required by the 1986 Superfund Amendments and Reauthorization Act [SARA] Title III regulations. No deadlines or penalties have been established for municipal compliance to the SARA Title III regulations. Private industries handling hazardous materials face substantial fines for non-compliance and have fully complied with SARA Title III regulations for emergency preparedness in Rhode Island.

The federal Occupational Safety and Health Administration [OSHA], under regulation 1910-120, regulates the private and public sectors in logistical response to hazardous materials accidents. OSHA mandates specific requirements for clean-up and routine operations, emergency response, and corrective actions for handling all hazardous materials.

Whenever a state assessment of a hazardous material accident is needed, the DEM Division of Site Remediation is responsible for fulfilling the obligation. As such, the DEM is considered the primary responder to all hazardous material incidents; however, local fire departments also have staff with training hazardous material response. If the contamination is a large or uncontrolled release of radioactive material into the environment or water supply source, then directives of the Department of Health will be followed in accordance with the RIEMA operations plans. Warnings will be given on the Emergency Broadcast System (EBS); the public will be advised of initial and immediate precautions not to use specific public drinking water until the supply is analyzed and declared safe for human or animal consumption.

The Department of Health produces protective action guides outlining public risk based upon its assessment of the data. The Nuclear Science Center at the University of Rhode Island assists in measuring levels of radioactive contamination of foodstuffs and analyzing water samples.

## **LEVEL I HAZARDOUS MATERIAL RELEASE**

A Level I incident is a release of a small quantity of material that is not a threat to a water supply, and is a situation within the scope of local control. The event is typically of short duration and, like most hazardous materials release (not associated with a fixed facility), the first responder will typically be a local or state public safety official who will contact the local fire district or department for immediate assistance.

### **LOCAL FIRE DISTRICT OR DEPARTMENT**

#### **INCIDENT COMMANDER OPERATIONS OFFICER**

#### **Senior Fire Official Fire Official**

- Investigate the emergency and evaluate the situation to determine the nature of the incident.
- Evaluate ability of on-scene parties to implement response in a timely and effective manner.
- Contact DEM and additional local and state resources such as fire and police to stabilize the situation and safeguard the public if necessary.
- Act as the Incident Commander in the event DEM is not required to be present. In this event, oversee the clean-up and proper removal of material.
- Respond to media covering the incident and hold press conference if needed.

### **RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

#### **Telephone Hazardous Materials Spills**

**(24 hours) 222-3070  
(office hours) 222-2797**

- Identify, investigate, and evaluate the nature and extent of the hazardous release and its threat to the water supply.
- Determine the necessary response, and evaluate the willingness and ability of the on-scene parties to implement that response in a timely and effective manner.
- Activate the Department's Emergency Response Contractor, if necessary.
- Contact other interested agencies or organizations and mobilize them if necessary.

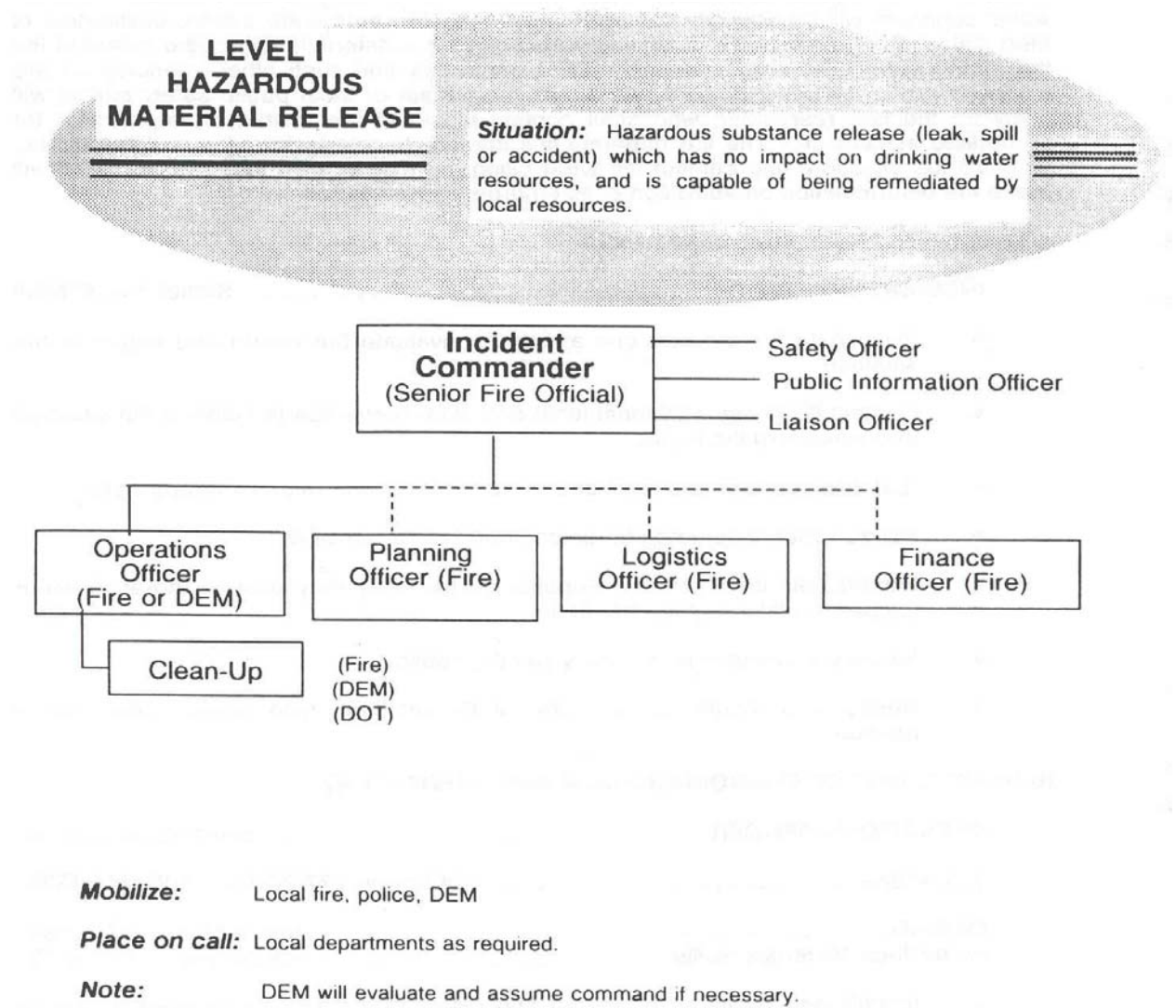
### **RI DEPARTMENT OF TRANSPORTATION [RIDOT]**

#### **Telephone Maintenance Headquarters**

**(24 hour) 222-2378**

- Provide equipment and resource personnel to aid clean up and containment.

**Figure 723-4 (2) Level One Hazardous Material Release**



## **LEVEL II HAZARDOUS MATERIAL RELEASE**

A Level II incident involves a hazardous material release that poses a potential threat or minor impact to a public water supply. It is typically of short duration, but the water suppliers will be notified so that they may initiate appropriate action; notification of alert status to other agencies is advised depending on a determination of the extent of the threat. The response may involve the DEM contractor and such other agencies as are necessary to resolve the incident. As in Level I, a state or local public *safety* official will likely be the first responder, who shall contact the local fire district or department for immediate assistance. The fire department's immediate role is to safeguard the public, stabilize the situation, and contact the DEM citing the extent of the crisis. The DEM will make the determination on activation of its emergency response contractor.

### **LOCAL FIRE DISTRICT OR DEPARTMENT**

#### **INCIDENT COMMANDER**

#### **Senior Fire Official**

- Investigate the incident and attempt to evaluate the nature and extent of the situation.
- Contact DEM and additional local and state resources to stabilize the situation and safeguard the public.
- Establish a command post and assign subordinate roles as appropriate.
- Act as incident commander unless relieved by the DEM.
- Immediately contact water supplier so that they may assess threat to water supply and take appropriate action.
- Insure the safety of responders and the public.
- Respond to media for coverage of the incident; hold press conference if needed.

### **RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

#### **OPERATIONS OFFICER**

#### **Senior Official**

**Telephone**

**(24 hours) 222-3070 or (800) 498-1336**

**Hazardous Materials Spills**

**(office hours) 222-2797**

- Identify and evaluate the nature and extent of the hazardous release and its threat to the water supply.
- Assess the risk of contamination to surface or groundwater supplies used for drinking water.
- Determine the necessary response, and evaluate the willingness and ability of the on-scene parties to implement that response in a timely and effective manner.
- Activate the Department's emergency response contractor, if necessary.
- Oversee the successful containment and removal of hazardous material until it no longer poses a threat to the environment.
- Alert water suppliers within the vicinity or those that may otherwise be affected by contamination; alert the proper federal agency.
- Contact other interested agencies or organizations and mobilize them *if* necessary. Further contacts are directed through the Emergency Management Agency for major releases and responses.

**RI EMERGENCY MANAGEMENT AGENCY [RIEMA]**

**LOGISTICS OFFICER**

**Telephone**

**RIEMA Director**

**(24 hours) 946-9996 (alt. # ARI-SPIL) 274-7745**

- Maintain contact with the DEM on-site coordinator and contact the Department of Health, the Governor's office, the RI National Guard and other state and federal agencies as appropriate.

**RI DEPARTMENT OF TRANSPORTATION [RIDOT]**

**Telephone Maintenance Headquarters**

**(24 hour) 222-2378.**

- Provide equipment and resource personnel to aid in containment and clean-up upon request

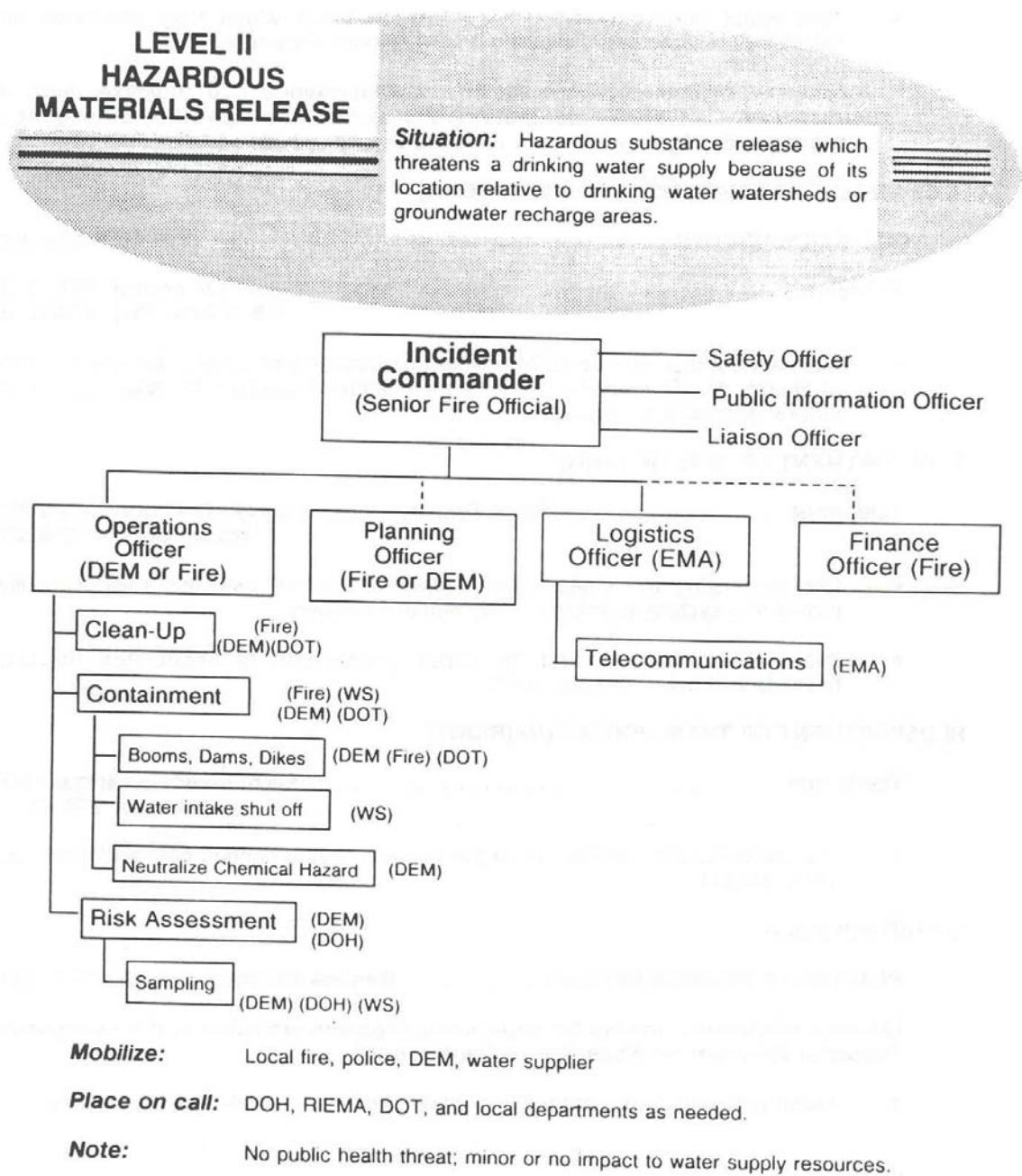
**WATER SUPPLIER PLANNING & FINANCE OFFICER.**

General Manager or Superintendent

(24-hour telephone numbers *for* large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Assist with spill containment as necessary to protect drinking water supply.

Figure 723-4(3) Level Two Hazardous Material Release



## **RI WATER RESOURCES BOARD [WRB]**

- available to coordinate activities between water suppliers and assist in overall coordination of the response if necessary
- 

**General Manager**

**222-2217**

## **LEVEL III HAZARDOUS MATERIAL RELEASE**

A Level III incident involves a large hazardous materials release within the watershed of a surface or groundwater supply and has potential to contaminate the water supply. The Incident Commander shall notify the water supplier of the potential threat to the resource. The RIEMA will be requested to set up telecommunications and mobilize other agencies as appropriate.

Events classified as level III may present a risk to public health. The Department of Health will advise both water suppliers and the municipal administrator of public notice requirements, and will approve the utilization of different treatment methods and alternate water supplies. Command will be established by fire officials as the first on-scene party to respond. Incident command will be relinquished to the DEM once the emergency contractor has arrived at the scene, and resources of the fire department are maintained on scene for public safety.

## **LOCAL FIRE DISTRICT OR DEPARTMENT**

### **INCIDENT COMMANDER**

### **Senior Fire Official**

- Investigate the emergency and attempt to evaluate the nature and extent of the situation.
- Contact DEM and additional local and state resources to stabilize the situation and safeguard the public.
- Immediately contacts water supplier if a threat to water supply is realized.
- Establish a command post and assign subordinate roles as appropriate.
- Act as incident commander until relieved by the DEM.
- Insure safety of responders and the public.
- Respond to media covering the incident; hold press conferences if needed.

## **RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

### **OPERATIONS OFFICER**

**Senior Official**

**Telephone**

**24 hours 222-3070 or (800)-498-1336**

**Hazardous Materials Spills**

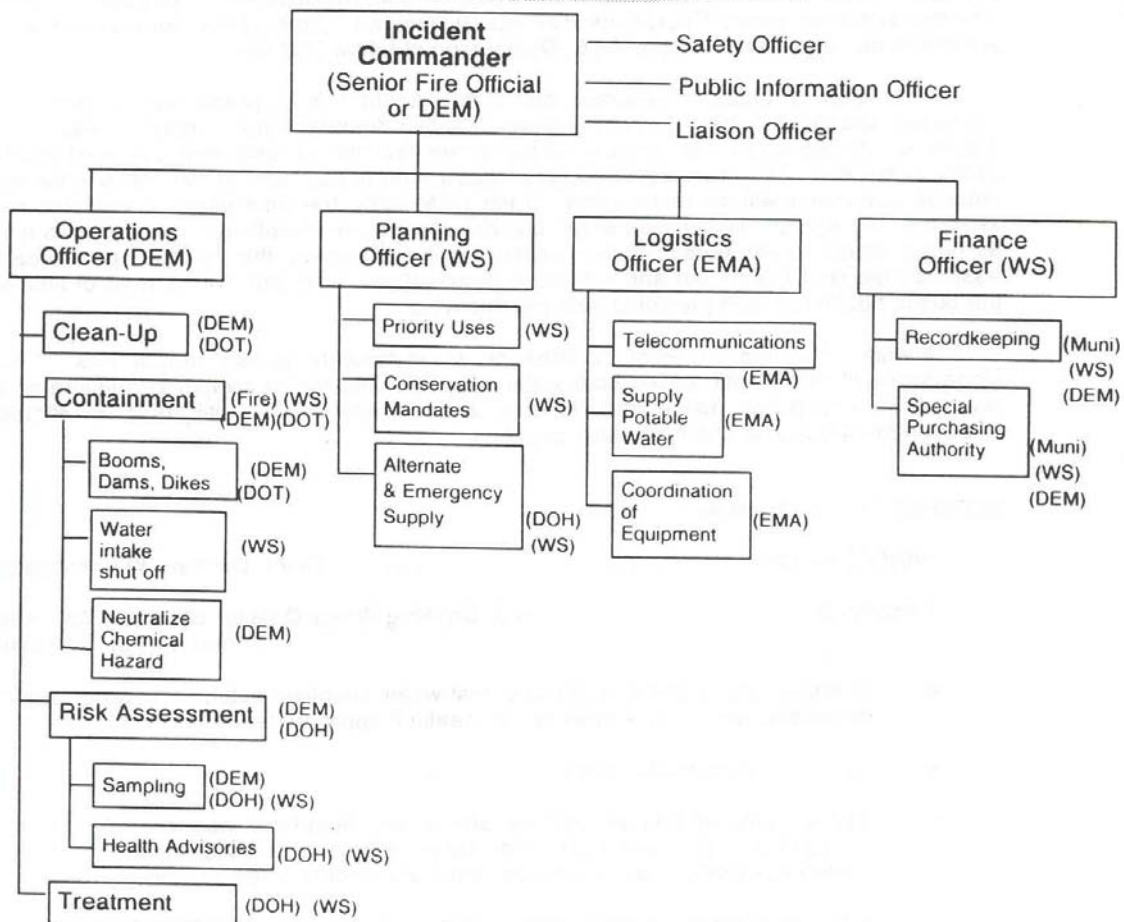
**(office hours) 222-2797**

- Identify and evaluate the nature and extent of the hazardous release and its threat to the water supply.
- Assess the risk of entry to surface or groundwater supplies.
- Immediately alert water supply authority.
- Determine the necessary response, and evaluate the willingness and ability of the on-scene parties to implement that response in a timely and effective manner.
- Activate the Department's emergency response contractor, if necessary.
- Oversee the successful containment and removal of hazardous material until it no longer poses a threat to the environment.
- Alert the water suppliers within the vicinity or those which may otherwise be affected by contamination; alert proper federal agencies.
- Contact other interested agencies or organizations and mobilize if necessary. Further contacts are directed through the RIEMA *for* major releases and responses.

Figure 723-4(4) Level Three Hazardous Material Release

# **LEVEL III HAZARDOUS MATERIAL RELEASE**

**Situation:** Hazardous substance release impacting a surface or groundwater supply and requiring the full mobilization of local resources and the Department of Environmental Management.



**Mobilize:** Local fire, police, DEM, water supplier, and local departments as required.

**Place on call:** DOH, RIEMA, RIDOT and PUC if a regulated utility.

**Note:** DOH will assess and advise supplier and municipality regarding public health.

## **RI DEPARTMENT OF HEALTH [DOH]**

### **Telephone**

**Chief Drinking Water Quality(24 hour) 21-1600  
(office hours) 222-6867**

- Oversee testing and, if necessary, test water supplies; establish a water quality monitoring system to ensure public health if appropriate.
- Assess risks to public health.
- Inform state and local officials and water suppliers associated with the threatened or contaminated water supply of potential health hazards. Issue health advisories that clearly identify affected areas.
- Approve alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Provide water suppliers with required public notice language *for* announcing drinking water contamination.
- Approve of new or supplemental treatment measures employed by water suppliers.
- Maintain contact with the municipality and Governor's office on need for declaration of emergency status.

## **RI EMERGENCY MANAGEMENT AGENCY [RIEMA]**

### **LOGISTICS OFFICER**

**RIEMA Director  
Telephone (24 hours) 946-9996  
(alt. # ARI-sPIL) 274-7745**

- Maintain contact with the Incident Commander and arrange for participation of other local, state, and federal agencies as needed.
- Dispatch the mobile telecommunication vans for on-site assistance and activate the Emergency Operations Center (EOC) if needed.
- Broadcast special instructions over the RI Emergency Broadcast System (EBS), if requested by the Incident Commander, Department of Health, or water supplier.
- Coordinate transport of potable water from other sources.
- Provide a knowledgeable individual to act as Logistics Officer and coordinate equipment and supplies necessary for containment and clean up on site by operations crew.
- Apprise the Governor's office of the situation and advise the Governor on the need for a state of emergency declaration. Draft the declaration if needed.

**WATER SUPPLIER**

**PLANNING & FINANCE OFFICER**

**General Manager or Superintendent**

**(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)**

- Implement emergency response plan *of* operations for water supply facility.
- Determine priority uses and implement water conservation plans as appropriate.
- Consider alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Examine additional treatment methods and confer with the DOH for use and approval.
- Confer with local government officials who must telephone the chemical spill emergency line within one hour.
- Maintain records *of* costs and expenditures.
- Issue press releases and hold news conferences with the Incident Commander if possible, to inform the public and the media.
- Maintain contact with the Incident Commander about the status *of* the emergency.
- Assist with containment as necessary to protect drinking water quality.

**RI WATER RESOURCES BOARD [WRB]**

available to coordinate activities between water suppliers and assist in overall coordination of the response if necessary

**General Manager**

**222-2217**

**MUNICIPAL GOVERNMENT**

**Telephone**

**Chief Elected Official**

- Maintain records *of* financial expenses.
- In situations where a water system is owned by a municipality some *of* the functions itemized under water supplier may be assumed by officials within municipal government.
- Telephone the 24-hour chemical spill emergency line [ARI-SPIL] at 274-7745.

A local government official is required to call within one hour to receive EPA funds of up to \$25,000 in reimbursement for hazardous material release clean-up activities.

**RI DEPARTMENT OF TRANSPORTATION (RIDOT)**

**Telephone**

**Maintenance Headquarters  
(24 hour) 222-2378**

- Provide equipment and resource personnel to aid in containment and clean-up.

## **LEVEL IV HAZARDOUS MATERIAL RELEASE**

A Level IV incident involves a hazardous release that influences a surface or groundwater supply and presents a risk to public health. It is a situation beyond local control and requires the full mobilization of local resources and state participation to meet the ends of the event.

A level IV incident requires coordination with the Department of Health and other state agencies who mobilize as requested. Water suppliers shall receive immediate notification of the type and extent of the incident from the first on-scene responder and the DEM Operations Director so that they may initiate appropriate actions. A Level IV incident usually results in a declaration of a local disaster and will require emergency support services. The assignment of responsibilities for the municipality is outlined in each community's Emergency Operations Plan (EOP), Annex I - Emergency Support Services. A sample declaration is in Appendix E, Declaration of Local Disaster.

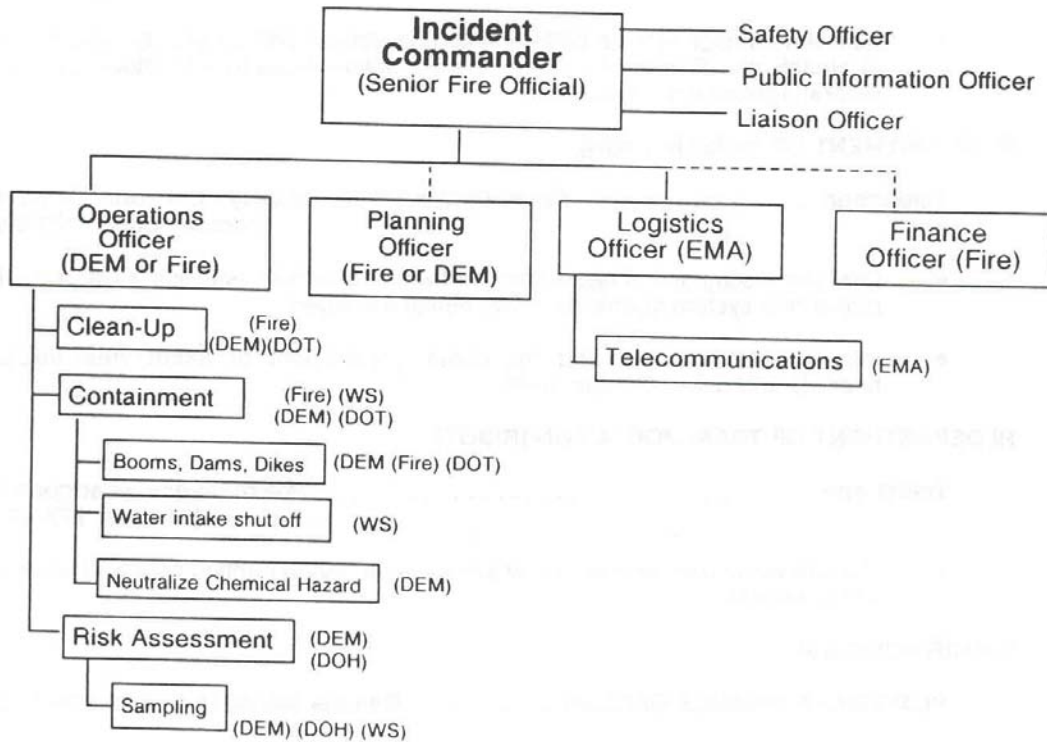
This level of disaster assumes that a significant risk to public health has been assessed and that the impact directly affects a public drinking water supply. Containment activity is initiated under the direction of the senior fire official, who also oversees public safety at the site. The incident will require mobilization of the DEM private contractor and incident command will be relinquished to the DEM once the emergency contractor has arrived at the scene. Resources of the fire department are maintained on scene as long as public safety issues persist. Once containment is achieved, the Department of Health assumes Incident Command and manages remediation of the site, with a goal of limiting the public health risk and providing safe potable water.

Events classified as level IV present an immediate public health risk. The Department of Health will advise both water suppliers and the municipal administrator of precautions and public notice requirements, and will approve the utilization of different treatment methods and alternate water supplies.

Figure 723-4(5): Level Four Hazardous Material Release

## LEVEL II HAZARDOUS MATERIALS RELEASE

**Situation:** Hazardous substance release which threatens a drinking water supply because of its location relative to drinking water watersheds or groundwater recharge areas.



**Mobilize:** Local fire, police, DEM, water supplier

**Place on call:** DOH, RIEMA, DOT, and local departments as needed.

**Note:** No public health threat; minor or no impact to water supply resources.

## **RI DEPARTMENT OF HEALTH [DOH]**

### **INCIDENT COMMANDER.**

**Telephone**

**Chief, Drinking Water Quality  
Chief, Drinking Water Quality (24 hour) 272-5952  
(office hours) 222-6867**

- Oversee testing and if necessary, test water supplies; establish a water quality monitoring system to ensure public health if appropriate.
- Assess risks to public health.
- Inform state and local officials and water suppliers associated with the threatened or contaminated water supply of potential health hazards. Press conferences and news announcements should clearly identify affected areas.
- Approve alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Provide water suppliers with required public notice language for announcing drinking water contamination.
- Approve of new or supplemental treatment measures employed by water suppliers.
- Maintain contact with the Governor's office on emergency status.

## **LOCAL FIRE DISTRICT OR DEPARTMENT**

### **SAFETY OFFICER**

**Senior Fire Official**

- Continue oversight of public safety and emergency response personnel during Clean up and containment activity.
- Maintain authority to cancel activities that may endanger response personnel or the public.

## **RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**

### **OPERATIONS OFFICER**

**Senior Official**

**Telephone**

**Hazardous Materials Spills.**

**24 hours 222-3070 or (800)-498-1336  
(office hours) 222-2797**

- Identify and evaluate the nature and extent of the hazardous release and its threat to the water supply.
- Assess contamination of surface or groundwater supplies used for drinking water.
- Immediately alert water supply authority.
- Determine the necessary response, and evaluate the willingness and ability of the on-scene parties to implement that response in a timely and effective manner.
- Activate the Department's emergency response contractor.
- Oversee the successful containment and removal of hazardous material until it no longer poses a threat to the environment.

- Contact other interested agencies or organizations and mobilize them if necessary. Further contacts are directed through the RIEMA for major releases and responses.
- Alert proper federal agencies.

## **RI EMERGENCY MANAGEMENT AGENCY [RIEMA]**

### **LOGISTICS OFFICER**

RIEMA Director, Telephone (24 hours) 946-9996 (alt. # ARI-SPIL) 274-7745

- Maintain contact with the Incident Commander, the Governor's office, and other state and federal agencies as appropriate.
- Dispatch the mobile telecommunication vans for on-site assistance, and activate the Emergency Operations Center (EOC) if needed.
- Broadcast special instructions over the AI Emergency Broadcast System (EBS) if requested by the incident commander. Department of Health, or water supplier.
- Coordinate transport of potable water from other sources.
- Provide a knowledgeable individual to act as Logistics Officer and coordinate equipment and supplies necessary for containment and clean up on site by operations crew.
- Apprise the Governor's office of additional needs and services. Advise the Governor on the need for a state of emergency declaration, and draft the declaration when necessary.
- Determine need for and coordinate requests for federal assistance. . Maintain accurate accounts of all costs and expenses.
- Obtain and utilize special purchasing authority as necessary for prompt emergency response.

## **WATER SUPPLIER**

### **PLANNING & FINANCE OFFICER**

### **General Manager or Superintendent**

(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency response plan of operations for water supply facility.
- Determine priority uses and implement water conservation plans as appropriate.
- Consider alternate potable water sources if necessary to supplement supply.
- Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Examine additional treatment methods and confer with the DOH for use and approval.
- Confer with local government officials who must telephone the chemical spill emergency line within one hour.
- Maintain records of costs and expenditures.
- Issue press releases and hold press conferences necessary to maintain an informed public and media.
- Maintain contact with the incident commander about news developments and key issues of importance to the Department of Health or water suppliers.

## **RI WATER RESOURCES BOARD [WRB]**

available to coordinate activities between water suppliers and assist in overall coordination of the response if necessary

**General Manager**

**222-2217**

## **MUNICIPAL GOVERNMENT**

**Telephone**

**Chief Elected Official**

- Maintain accurate records of expenses.
- Telephone the 24-hour chemical spill emergency line [ARI-SPIL] at 274-7745. A local government official is required to call within one hour to receive EPA funds of up to \$25,000 in reimbursement for hazardous material release clean-up activities.
- In situations where a water system is owned by a municipality, some of the functions itemized under water supplier may be assumed by officials within municipal government.

## **RI DEPARTMENT OF TRANSPORTATION (RIDOT)**

**Telephone Maintenance Headquarters**

**(24 hours) 222-2378**

- Provide equipment and resource personnel to aid in containment and clean-up.

## **4-4 CONTAMINATION**

Source or distribution system contamination can be caused by several factors. The RI Department of Health has primacy in enforcement of EPA standards for contamination. Violations are divided into two tiers based on the seriousness of the violation and can also be classified as acute meaning that they pose an immediate risk to human health. Most acute MCL (maximum contaminant level) violations are defined by NPDWAI although the Director of Health maintains discretion for issuing other determinations. Certain violations such as nitrate and fecal coliform bacteria can pose acute violations; but current EPA regulations must be consulted, as only violations of the nitrate standard were considered acute prior to 1989 (USEPA, 1990) It should be noted that the requirements for public notification of violations in either tier also vary according to the type of public water system.

There are many options for mitigating the effects of contamination incidents. Water suppliers will remain in charge of their systems to the fullest extent, as they have the best knowledge of their system. Particular problems should be addressed with the least disruptive method to the water supply system and customers. Municipalities may assume an independent role in emergency situations depending on the size and ownership of the water system. They will remain a part of the support system, but the measure of resources and financial liability assumed will depend on unique circumstances for each community. A municipality may assume the lead role, as the owner of the system, however, non-municipally owned systems will generally manage the emergency and involve municipal government by request.

Each community should be acquainted with emergency sources of water if needed in the event of widespread contamination. The DEM has standby emergency response contracts, which could assist in providing potable water in limited situations if funding is available

## **LEVEL I CONTAMINATION**

A Level I incident of contamination occurs when water samples exceed Department of Health safe drinking water standards. The water supplier initiates corrective action as needed. Customers may be required to boil water for drinking; it is the water supplier's obligation to inform consumers of the necessary precautions.

### **WATER SUPPLIER INCIDENT COMMANDER**

**General Manager or Superintendent**

### **OPERATIONS, PLANNING, LOGISTICS & FINANCE OFFICER**

**General Manager or Superintendent**

(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency response plan of operations for water supply facility.
- Issue public health advisory, and clearly identify) affected area.
- Consider whether event may be the result of sabotage and, if so, call police.
- Close off or reroute water supply as necessary to avoid contamination of the entire water system.
- Examine additional treatment methods and confer with the DOH for use and approval.
- Issue "boil water" or other public health notice as appropriate.
- Maintain accurate records of costs and expenses.

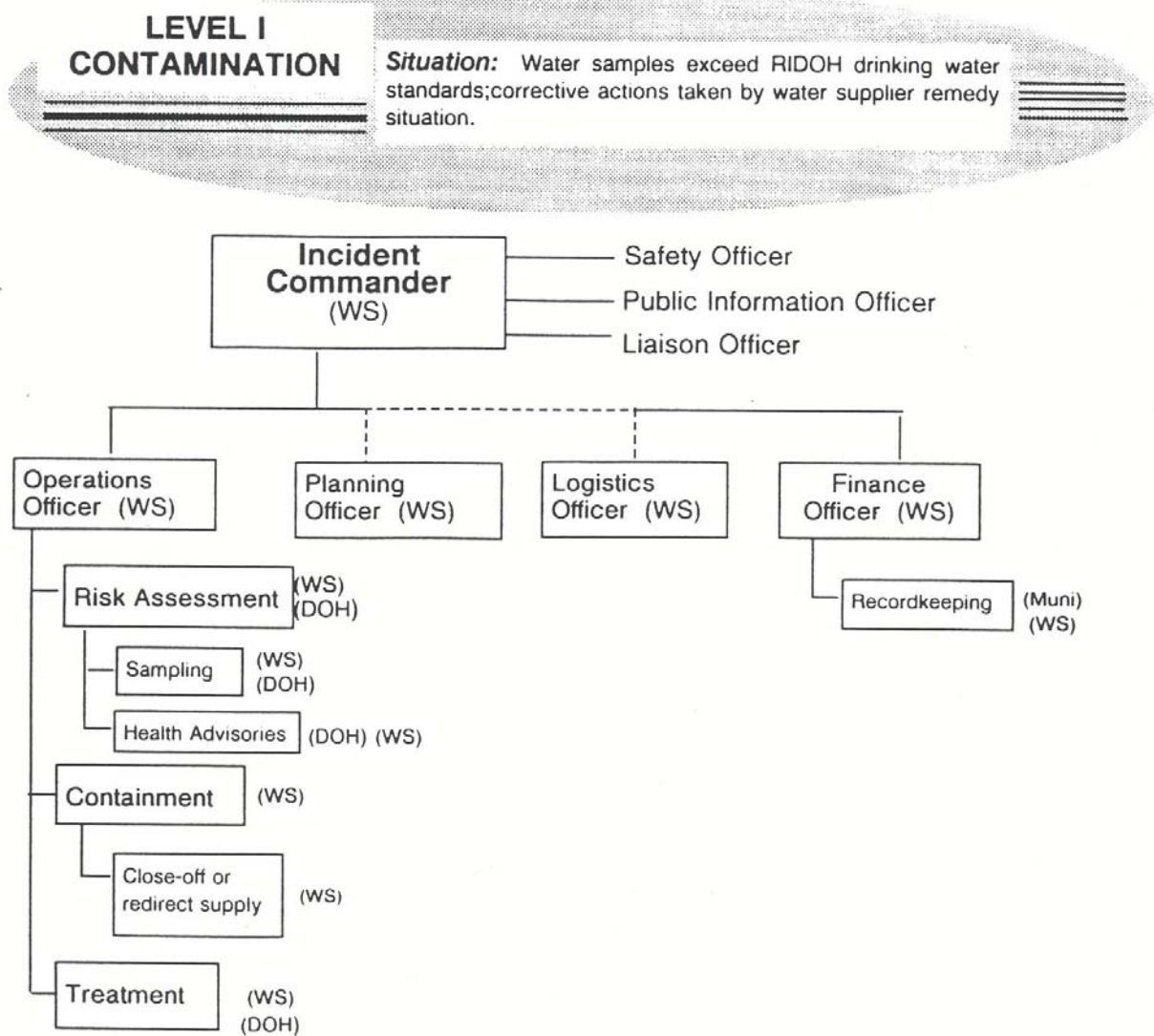
## **RI DEPARTMENT OF HEALTH [DOH]**

### **Telephone**

**Chief, Drinking Water Quality (24 hour) 272-5952  
(office hours) 222-6867**

- Oversee testing and, if necessary, test water supplies; establish a water quality monitoring system to ensure public health if appropriate.
- Assess risks to public health.
- Inform state and local officials and water suppliers associated with the threatened or contaminated water supply of potential health hazards. Issue health advisories that clearly identify affected areas.
- Approve alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Provide water suppliers with mandatory health effects language as required for public notice.
- Approve of new or supplemental treatment measures employed by water suppliers.
- Maintain contact with the water supplier, municipality, and Governor's office on need for declaration of emergency status.

Figure 723-4(6) Level One Contamination



**Mobilize:** DOH, water supplier, municipal government.

**Note:** Feasible options exist for maintaining potability of tapwater; situation applies to all water systems regardless of size, and includes contamination to a water supply by elements having long-term health risks.

## **MUNICIPAL GOVERNMENT**

### **Telephone**

### **Chief Elected Official**

In situations where a water system is owned by a municipality some of the functions itemized under water supplier may be assumed by officials within municipal government.

## **LEVEL II CONTAMINATION**

Level II contamination results in an immediate health risk to a population served by a water system. The water supplier initiates corrective action, consulting with the Department of Health as necessary. At this level boiling water is not a sufficient alternative. It is the water supplier's obligation to advise customers of provisions and precautions to acquire potable water, although the Department of Health may issue independent health advisories to the public. This type of incident may result in a local declaration of water emergency dependent on the numbers of people affected.

## **WATER SUPPLIER**

### **INCIDENT COMMANDER.**

General Manager or Superintendent OPERATIONS, PLANNING, LOGISTICS & FINANCE OFFICER  
General Manager or Superintendent

(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency response plan of operations for water supply facility. . Issue public health advisory and clearly identify affected areas.
- Determine priority uses and implement water conservation plans as appropriate.
- Close off or reroute water supply as necessary to avoid contamination of the entire water system.
- Consider alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Examine additional treatment methods and confer with the DOH for use and approval.
- Maintain accurate records of costs and expenses.
- Maintain contact with the incident commander about news developments and issues of importance between the Department of Health and water supplier.
- Enable special purchasing authority as necessary for prompt emergency response.
- Consider whether event may be the result of sabotage and, if so, call police

## **RI DEPARTMENT OF HEALTH [DOH]**

### **Telephone**

**Chief, Drinking Water Quality (24 hour) 272-5952  
(office hours) 222-6867**

- Oversee testing and, if necessary, test water supplies; establish a water quality monitoring system to ensure public health.
- Assess risks to public health.
- Inform state and local officials and water suppliers associated with the threatened or contaminated water supply of potential health hazards.
- Approve alternate potable water sources if necessary to supplement supply.
- Provide water suppliers with mandatory health effects language as required for public notice.
- Approve of new or supplemental treatment measures employed by water suppliers.
- Maintain contact with the municipality and Governor's office on need for declaration of emergency status.

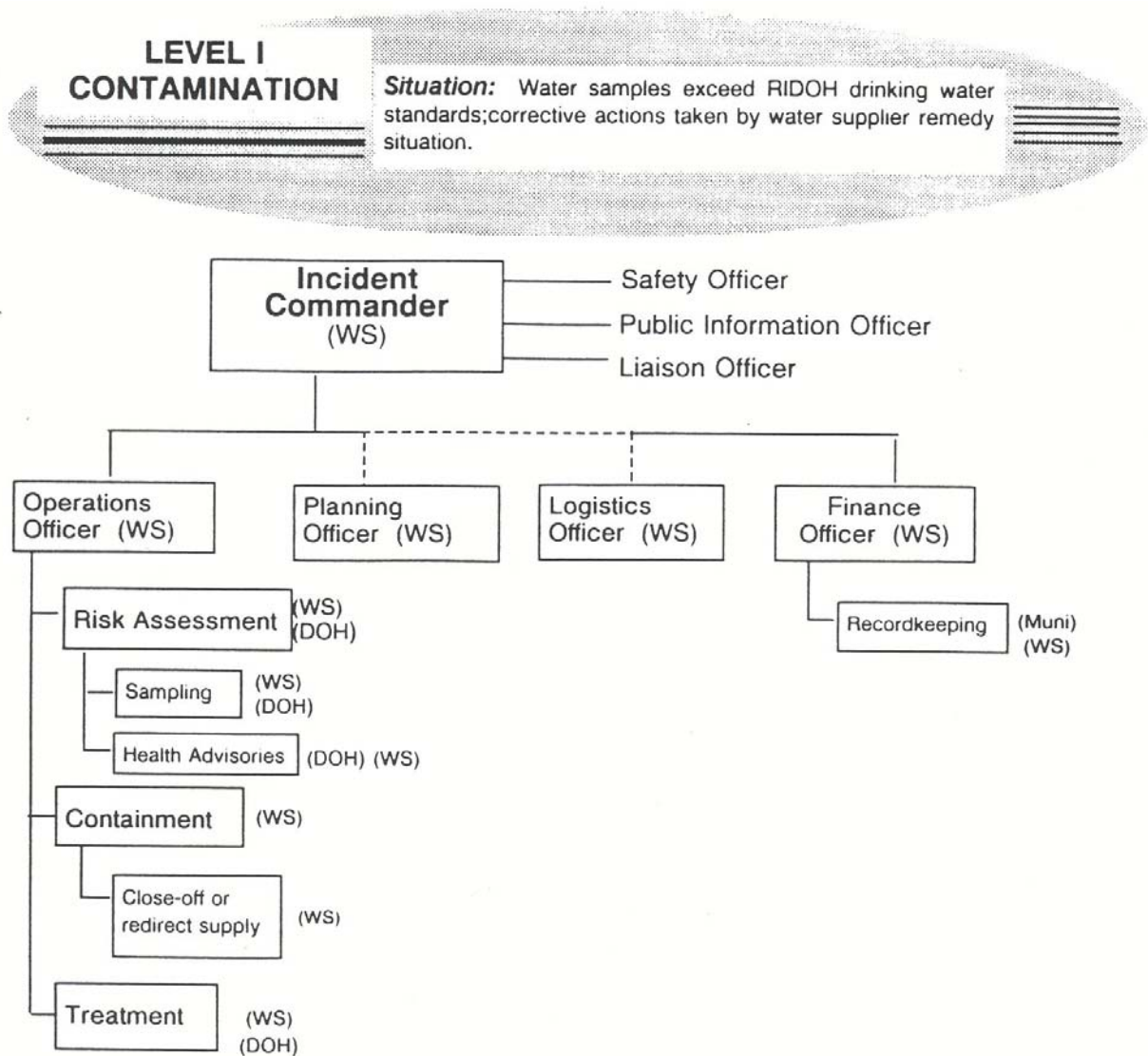
## **MUNICIPAL GOVERNMENT**

### **Telephone**

**Chief Elected Official**

- In situations where a water system is owned by a municipality, some of the functions itemized under water supplier may be assumed by officials within municipal government.
- Maintain records of costs and expenses.
- Enable special purchasing authority as needed.

Figure 723-4(7) Level Two Contamination



**Mobilize:** DOH, water supplier, municipal government.

**Note:** Feasible options exist for maintaining potability of tapwater; situation applies to all water systems regardless of size, and includes contamination to a water supply by elements having long-term health risks.

## **LEVEL III CONTAMINATION**

The highest level of contamination incident is the result of an immediate and widespread public health risk beyond the means of the water supplier and municipal resources to manage. This type of event requires the full mobilization of resources, conceivably by order of the Governor. It is an occurrence where water is non-potable and necessitates acquisition of an independent source of drinking water for a substantial population. The water supplier initiates corrective action consulting with the Department of Health as needed. At this level, boiling water is not an alternative.

It is the water supplier's obligation to inform consumers of the water use limitations, although the Department of Health may issue independent health advisories and news statements to the press. Specific public notice requirements vary by system type and the acuteness of the contamination. This type of incident may result in a local declaration of water emergency dependent on the numbers of people affected.

## **RI DEPARTMENT OF HEALTH [DOH]**

### **INCIDENT COMMANDER**

**Telephone**

**Chief, Drinking Water Quality**

**Chief, Drinking Water Quality (24 hour) 272-5952**

**(office hours) 222-6867**

- Oversee testing and, if necessary, test water supplies. If appropriate establish a water quality monitoring system to ensure public health.
- Assess risks to public health.
- Inform state and local officials and water suppliers associated with the threatened or contaminated water supply of potential health hazards.
- Approve alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Provide water suppliers with mandatory health effects language as required for public notice.
- Approve of new or supplemental treatment measures employed by water suppliers.
- Maintain contact with the municipality and Governor's office on need for declaration of emergency status, and act as key liaison maintaining awareness of all transpiring activities.

## **RI WATER RESOURCES BOARD [WRB]**

- available to coordinate activities between water suppliers and assist in overall coordination of the response if necessary

**General Manager**

**222-2217**

## **WATER SUPPLIER**

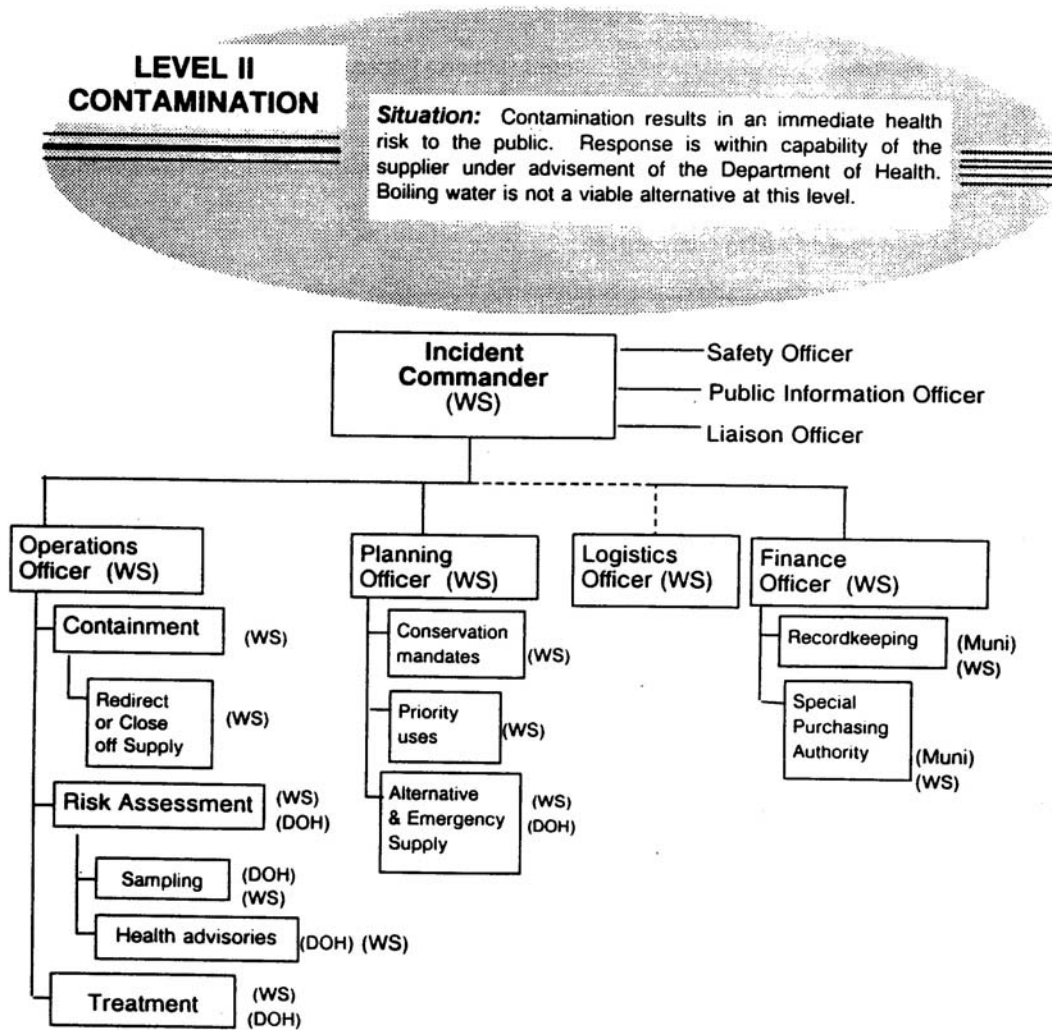
### **OPERATIONS PLANNING & FINANCE OFFICER**

#### **General Manager or Superintendent**

(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency response plan of operations for water supply facility.
- Issue public health advisory, which clearly identifies affected areas.
- Determine priority uses and implement water conservation plans as appropriate.
- Close off or reroute water supply as necessary to avoid contamination of the entire water system.
- Consider alternate potable water sources if necessary to supplement supply.
- Examine additional treatment methods and confer with the DOH for use and approval.
- Maintain accurate records of costs and expenses.
- Maintain contact with the incident commander about news developments and issues of importance between the Department of Health and water suppliers.
- Consider whether the event was an act of sabotage and if so call police.

Figure 723-4(8) Level Three Contamination



**Mobilize:** DOH, water supplier, municipal government, RIEMA, and other local resources mobilized on an as-needed basis. The PUC should be notified of all incidents affecting regulated water supplies.

**Note:** May result in local declaration of water emergency depending on number of people affected.

## **MUNICIPAL GOVERNMENT**

### **Telephone**

### **Chief Elected Official**

- Maintain accurate records of costs and expenses.
- Enable special purchasing authority as necessary for prompt emergency response.
- In situations where a water system is owned by a municipality, some of the functions itemized under water supplier may be assumed by officials within municipal government.

## **RI EMERGENCY MANAGEMENT AGENCY [RIEMA] LOGISTICS OFFICER RIEMA**

### **Director**

**Telephone (24 hours) 946-9996  
(alt. # ARI-SPIL) 274-7745**

- Maintain a central communications center, and activate mobile communication van for on-site assistance.
- Broadcast special instructions over the RI Emergency Broadcast System (EBS), if needed.
- Determine need for and coordinate federal assistance.
- Coordinate acquisition and transport of water from other sources.
- Coordinate acquisition of equipment and supplies needed to respond promptly to emergency conditions.
- Maintain contact with the Governor's office and appraise additional needs.

## **4-5 MECHANICAL FAILURE**

Mechanical failures are the result of malfunction in the infrastructure, breakdown of equipment or structures, physical stress, deterioration, vandalism, or fire, etc., which is sudden or unexpected. They have a negative effect on water systems when they interfere with the ability of the water supplier to maintain an adequate and safe water supply. Equipment failures can occur in many parts of a water system, including transmission treatment, or storage facilities. For the most part repairs are routine and are conducted immediately; the public is not notified of the incident and the supplier can maintain adequate flow to the community. Response is the responsibility of the local water supplier, who activates emergency or stand-by equipment as needed. The state will assist when the disruption is beyond the ability of the supplier and municipal resources to maintain adequate potable water to a community. The state, through the Emergency Management Agency, may provide assistance in obtaining and transporting potable water; they may offer sources for additional equipment and supplies, as they have a variety of resources for provisions such as generators or other apparatus.

Other state agencies who may be associated with emergency response are the Public Utilities Commission if a regulated utility is involved, or the DEM which is responsible for routine inspection of dam structures. Should a dam be structurally compromised by an emergency event or natural disaster, emergency repairs to the structure will not require a DEM permit; all other routine dam maintenance is subject to the DEM wetlands permit process.

Small water systems, dependent on one well for instance, will have different action plans for mechanical failure of their water supply system than a large system that has many sources. The customer base of a small system, waiting for replacement parts or equipment, may find it necessary to obtain bottled water while repairs to their system are made; agreements for temporary non-potable water supplies should be in place and initiated.

## **LEVEL I MECHANICAL FAILURE**

A level I mechanical failure is an equipment failure or failure of the infrastructure to support water distribution, storage, or treatment. The incident is largely routine, as the supplier is able to maintain service or a small part of the customer base is without service for a short duration while the emergency is addressed. This may require use of emergency equipment available within the water supplier's community network or implementation of the supplier's emergency plan.

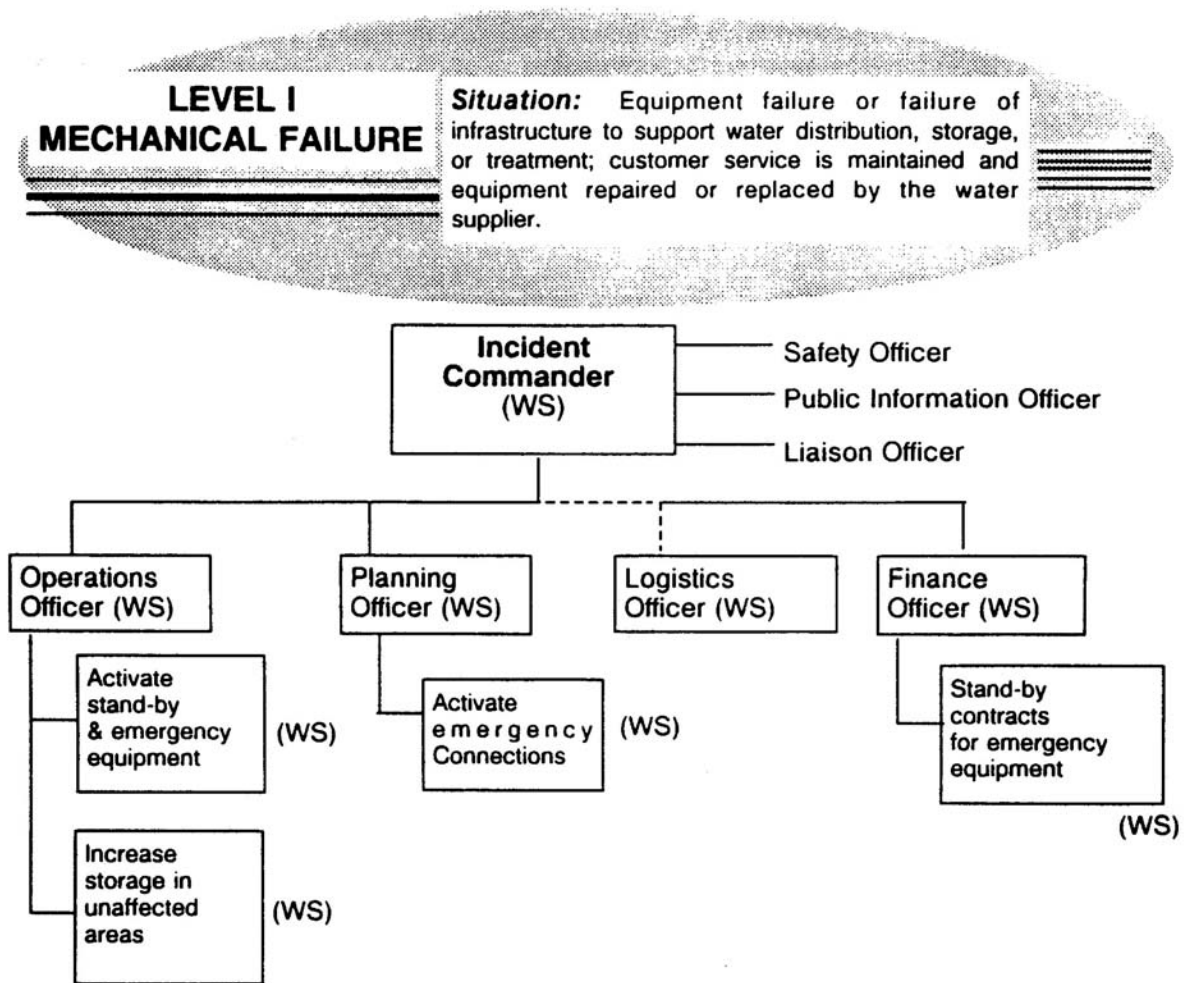
## **WATER SUPPLIER**

<b>INCIDENT COMMANDER</b>	<b>General Manager or Superintendent</b>
<b>OPERATIONS, PLANNING, LOGISTICS &amp; FINANCE OFFICER</b>	
	<b>General Manager or Superintendent</b>

(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency response plan of operations for water supply facility if needed.
- Close off or reroute water supply as necessary to avoid contamination of the entire water system.
- Activate any emergency equipment needed to maintain a safe and adequate flow of potable water to the community.
- Increase water storage in areas unaffected by the incident so that stored water is available to be redirected if necessary.
- Initiate stand-by contracts for emergency equipment and maintain accurate records of costs and expenses.
- Activate emergency connections as necessary.

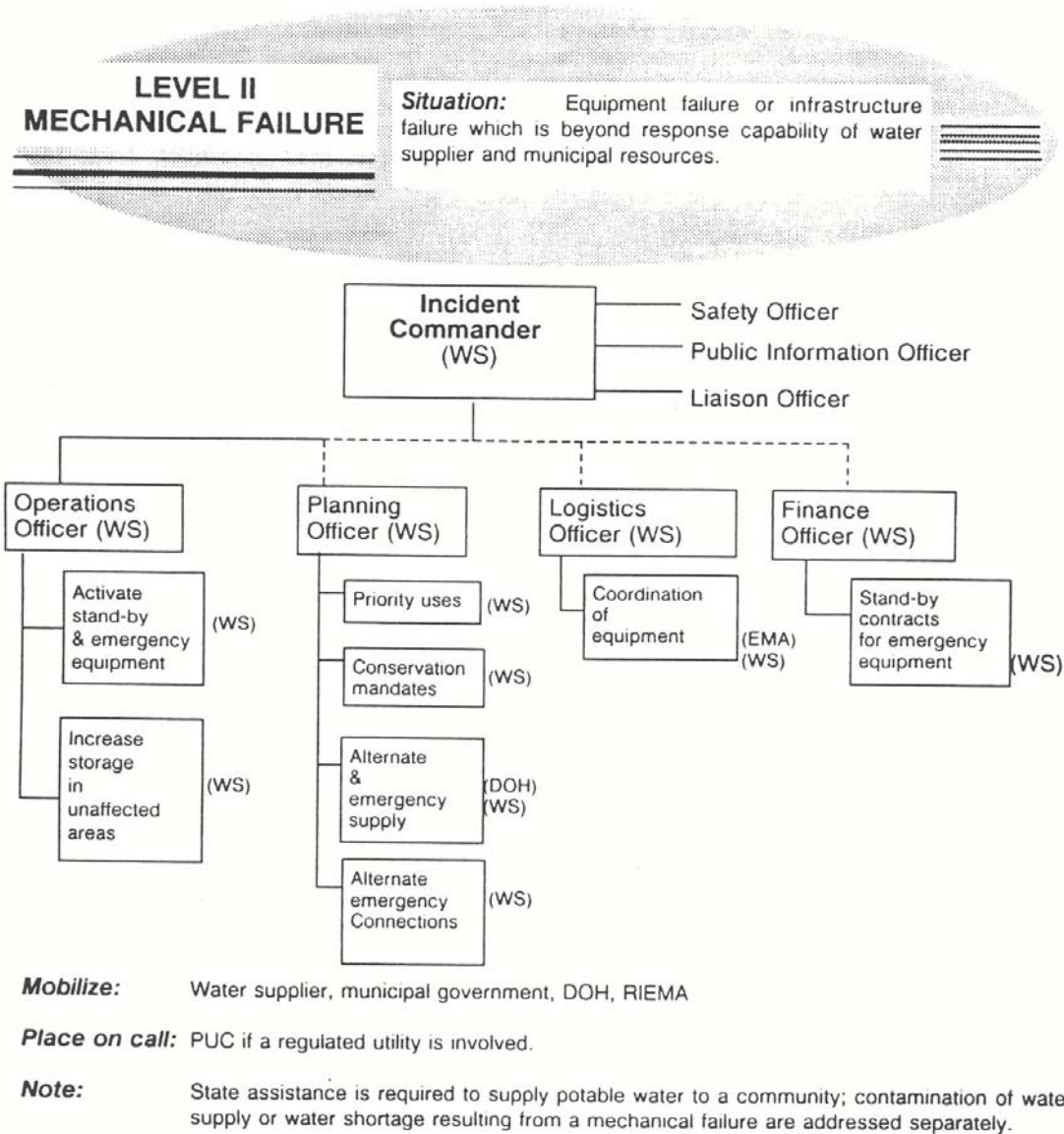
Figure 723-4(9) Level One Mechanical Failure



**Mobilize:** Water supplier, municipal assistance as needed.

**Note:** PUC must be notified of major breaks affecting components of a regulated system.

**Figure 723-4(10) Level Two Mechanical Failure**



## **LEVEL II MECHANICAL FAILURE**

A level II emergency is an incident in which a water supplier is unable to accommodate water supply needs of the customer base and has exhausted all reasonable sources from municipal, neighboring, or private water systems. State assistance is requested and carried out by the Emergency Management Agency. The Department of Health is required to approve any alternate or emergency sources of drinking water.

### **WATER SUPPLIER**

#### **INCIDENT COMMANDER OPERATIONS**

**General Manager or Superintendent  
PLANNING, LOGISTICS & FINANCE OFFICER  
General Manager or Superintendent**

(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency response plan of operations for water supply facility if needed.
- Consider whether the event was an act of sabotage and call police
- Close off or reroute water supply as necessary to avoid contamination of the entire water system.
- Activate any emergency equipment needed to maintain a safe and adequate flow of potable water to the community.
- Determine priority uses and implement water conservation plans as appropriate.
- Increase water storage in areas unaffected by the incident so that stored water is available to be redirected if necessary.
- Initiate stand-by contracts for emergency equipment, and maintain accurate records of costs and expenses.
- Consider alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.

### **RI WATER RESOURCES BOARD [WRB]**

available to coordinate activities between water suppliers and assist in overall coordination of the response if necessary

**General Manager**

**222-2217**

### **RI DEPARTMENT OF HEALTH [DOH]**

**Telephone**

**Chief Drinking Water Quality  
(24 hour) 272-5952  
(office hours) 222-6867**

- Approve alternate and emergency potable water sources if needed to supplement supply.
- Approve any new treatment measures employed by water suppliers.

## **4-6 POWER FAILURE**

Power failures may result from any number of incidents, including tropical storms or hurricanes, accidents, vandalism, fuel shortages, or fires. They, too, can have a negative effect on water systems, as, when prolonged, they interfere with the ability a water supplier's to maintain an adequate and safe water supply.

It is a rare situation where a power failure will affect a water supplier and not other community facilities. Provided that the water supplier has emergency power, availability of fuel is the main issue for maintaining an adequate supply of water. The state will assist when the disruption is beyond the ability of the supplier and municipal resources to maintain adequate potable water to a community. The state, through the Emergency Management Agency, may provide assistance in obtaining and transporting potable water. They may offer sources for additional equipment, as they have a variety of resources for provisions such as generators or other apparatus. They can assist with telecommunications if telephone lines are out of service. In all cases, municipal resources should be exhausted first, before state assistance is requested.

The Public Utilities Commission [PUC] is responsible for ensuring appropriate action by regulated utilities and priority restoration of power to water suppliers. A power company may be placed on emergency status implementing their emergency preparedness plan under the PUC's oversight. Beyond a level II emergency, the dimensions of the situation most probably require the declaration of a state of emergency. In this case, other statewide strategy for disaster preparedness is initiated depending on the cause of the power loss.

### **LEVEL I POWER FAILURE**

A level I power failure is a situation that is adequately addressed by the water supplier with back-up power. It may be necessary for the larger water suppliers to initiate their emergency response plans and utilize stored water supplies if they are available for use without a power source. This type of event is generally considered routine and does not require state assistance.

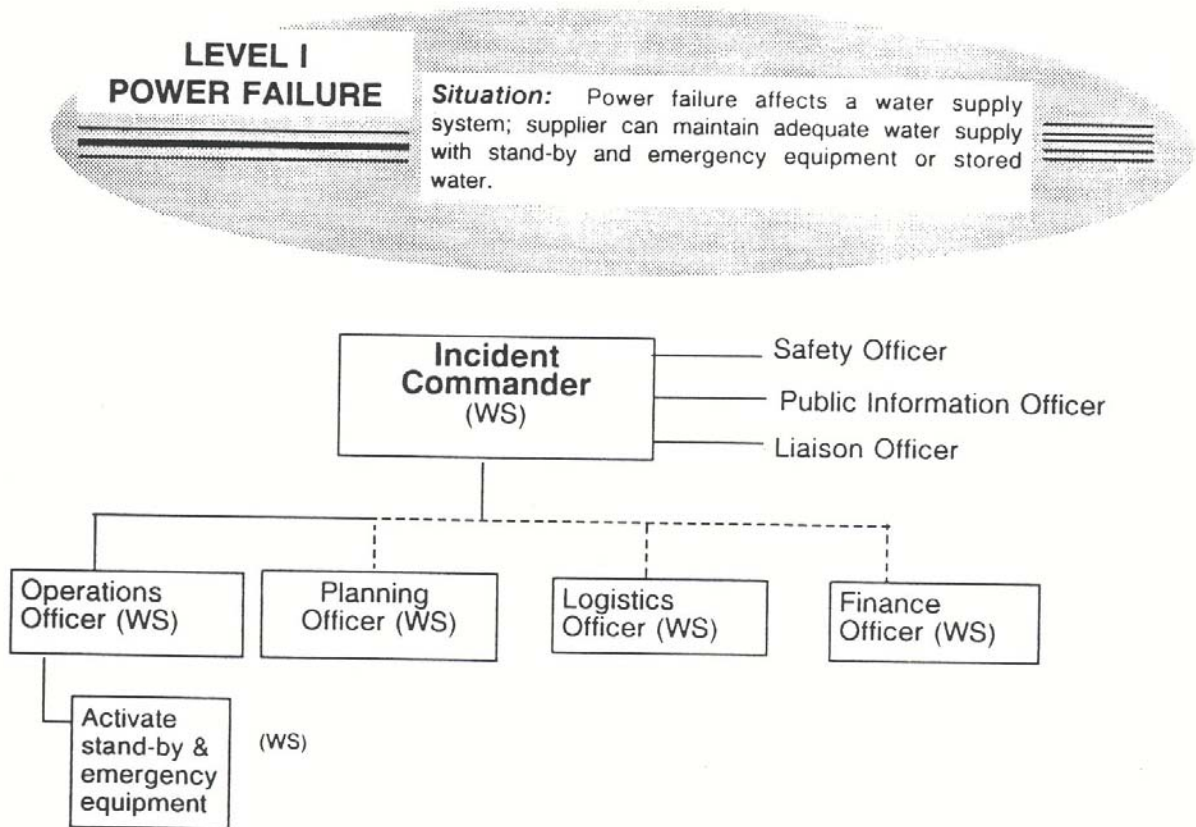
#### **WATER SUPPLIER INCIDENT COMMANDER OPERATIONS, PLANNING**

#### **General Manager or Superintendent LOGISTICS & FINANCE OFFICER**

General Manager or Superintendent (24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency response plan for water supply facility if needed.
- Activate any stand-by or emergency equipment needed to maintain a safe and adequate flow of potable water to the community.
- Increase water storage in areas unaffected by the incident so that stored water is available to be redirected if necessary.
- Engage any stand-by contracts for abating the emergency status.

**Figure 723-4(11) Level One Power Failure**



**Mobilize:** Water supplier

**Note:** Most large water suppliers have stand-by equipment and back up power; water supplier initiates emergency response plan for power failure if necessary.

## **LEVEL II POWER FAILURE**

A level II power failure is a prolonged situation beyond the response capacity of the water supplier and municipal resources. It may be necessary to initiate their emergency response plans and institute conservation mandates for non-priority users. Stored water supplies should be used if they are available for use without a power source. This type of event requires state assistance, but not to the extent that a state of emergency is declared.

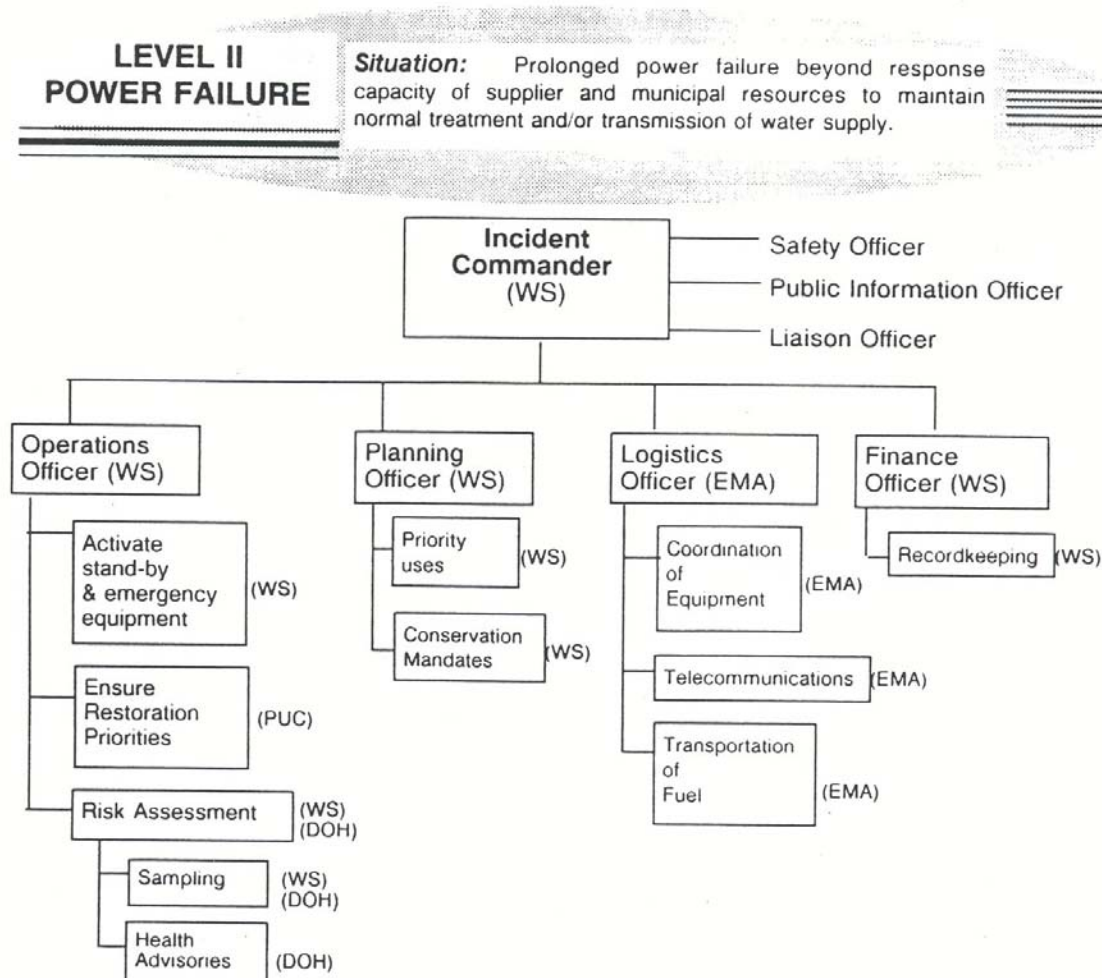
### **WATER SUPPLIER INCIDENT COMMANDER OPERATIONS,**

### **General Manager or Superintendent PLANNING & FINANCE OFFICER**

General Manager or Superintendent  
(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency response plan of operations for water supply facility if needed.
- Activate any emergency equipment needed to maintain a safe and adequate flow of potable water to the community.
- Determine priority uses and implement water conservation plans as appropriate.
- Increase water storage in areas unaffected by the incident so that stored water is available to be redirected if necessary.
- Initiate stand-by contracts for emergency equipment, and maintain accurate records of costs and expenses.
- Consider alternate potable water sources if necessary to supplement supply sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Consider whether the event was an act of sabotage and if so, call police

Figure 723-4 (12) Level Two Power Failure



**Mobilize:** Water supplier, DOH, RIEMA, PUC, and municipal departments as needed.

**Note:** Power company may be placed on emergency status implementing emergency preparedness plan; PUC ensures appropriate action by regulated utilities and priority power restoration for water suppliers. Depending on the extent of the disaster a state of emergency may be declared. The RIEMA may be able to assist with fuel transport for urgent use of emergency equipment. Contaminated water supply or water shortage resulting from power failure are addressed separately.

## **RI WATER RESOURCES BOARD [WRB]**

available to coordinate activities between water suppliers and assist in overall coordination of the response if necessary

**General Manager**

**222-2217**

## **RI DEPARTMENT OF HEALTH [DOH]**

**Telephone.**

**Chief, Drinking Water Quality (24 hour) 272-5952  
(office hours) 222-6867**

- Oversee testing and, if necessary, test water supplies; establish a water quality monitoring system to ensure public health if appropriate.
- Assess risks to public health.
- Inform state and local officials and water suppliers associated with the threatened or contaminated water supply of potential health hazards. Issue health advisories, which clearly identify affected areas.
- Approve alternate potable water sources if necessary to supplement supply.
- Maintain contact with the municipality and Governor's office on need for declaration of emergency status, and act as key liaison maintaining awareness of all transpiring activities.

## **RI EMERGENCY MANAGEMENT AGENCY [RIEMA] LOGISTICS OFFICER RIEMA**

**Director**

**Telephone (24hours) 946-9996  
(alt. # ARI-SPIL) 274-7745**

- Maintain a central communications center, and activate mobile communication van for on-site assistance.
- Broadcast special instructions over the RI Emergency Broadcast System (EBS), if needed.
- Determine need for and coordinate federal assistance.
- Coordinate acquisition and transport of water from other sources.
- Coordinate acquisition of equipment and supplies needed to respond promptly to emergency conditions.
- Maintain contact with the Governor's office and appraise additional needs.

## **PUBLIC UTILITIES COMMISSION [PUC]**

**Telephone**

**(office hours) 222-3500  
(contact EMA after hours) 946-9996**

- Oversee and monitor restoration efforts by the power companies, and coordinate any unforeseen circumstances with the utilities.
- Notify mobile field crews of restoration priorities, and direct priority restoration of power to water suppliers and other priority users.
- Direct PUC employees to emergency locations, and position staff to review operations of utilities or aid in consumer support or communications.

## **4-7 WATER SHORTAGE**

Water shortages may impede the ability of a water supplier to provide adequate drinking water or maintain sanitary flow to consumers. This situation may transpire in the aftermath of a contamination incident, drought that exceeds the design drought for the water system, a hazardous materials release, mechanical, structural or power failure, natural disaster, or intentional disruption to a water system. A water shortage, as referenced in this plan, is a sudden and infrequent loss of water.

An assessment determining actions in response to a water shortage may vary due to the cause and magnitude of the water deficit. Customers in a portion of a municipal surface water system, for instance, contaminated by bacteria may experience a temporary shortage. This situation may be remedied by issuing a "boil water" notice or the municipality may provide customers with drinking water at designated locations throughout the community. This is generally a temporary arrangement established on an emergency basis where one segment of a community is accommodated by the water supplier or a neighboring supplier with adequate supply.

A different situation arises, however, when there is questionable water quality, and therefore a shortage of potable water in a rural community system that has no back-up source. This plan proposes that it is essential to request municipal involvement in assisting customers of a system before state assistance is requested. The state is unable to commit resources until the local government issues an emergency declaration for assistance. This requires that the municipality assert that it has exhausted local resources, has a threat of serious health hazards, and therefore requests state aid.

The emergency component of the required DEM Water Supply Management Plans will address strategy for large water suppliers in emergency situations such as noted above. In fact, most of the planning process for adequate water supply has addressed large water systems and those that have emergency connections with other public drinking water supplies. The use of these connections presumes an acute condition of short duration and requires approval from the RIDOH. Recommended guidelines for using or constructing emergency interconnections are discussed in Part 6-1.

There are few emergency connections available to small water systems, and lacking a larger support network these suppliers should be prepared to meet emergency needs of their systems. The Department of Health is responsible to evaluate interruptions that may cause a risk to a public health, however, most crises affecting small water systems can be related to mechanical failures or plumbing problems and should be addressed by the supplier as would occur with a larger system. It should be noted that a water system that experiences chronic water shortages is not considered an emergency situation.

The actions recommended herein are for short-term emergency incidents which does not include repeated occurrences of degraded water quantity or quality, or situations of a long-term gestation such as a drought. The guidelines recommended in level I and level II are deliberately broad as they are intended for all water systems of the state, not dependent on size. Larger water suppliers, who are completing Water Supply System Management Plans, will address short-term drought contingency as part

of their emergency plans. A long-term drought management plan must be addressed in a future document and involve wide-scale representation of users for developing contingencies and state policy.

## **LEVEL I WATER SHORTAGE**

A level I emergency is a shortage of water that is a sudden and unusual occurrence, which the water supplier is capable of addressing. The water supplier is able to address the needs of the customers experiencing the shortage with temporary or alternative water supplies, or bottled water. This remedy is applicable to water shortage emergencies, which excludes water supplies experiencing a chronic loss of supply.

## **WATER SUPPLIER**

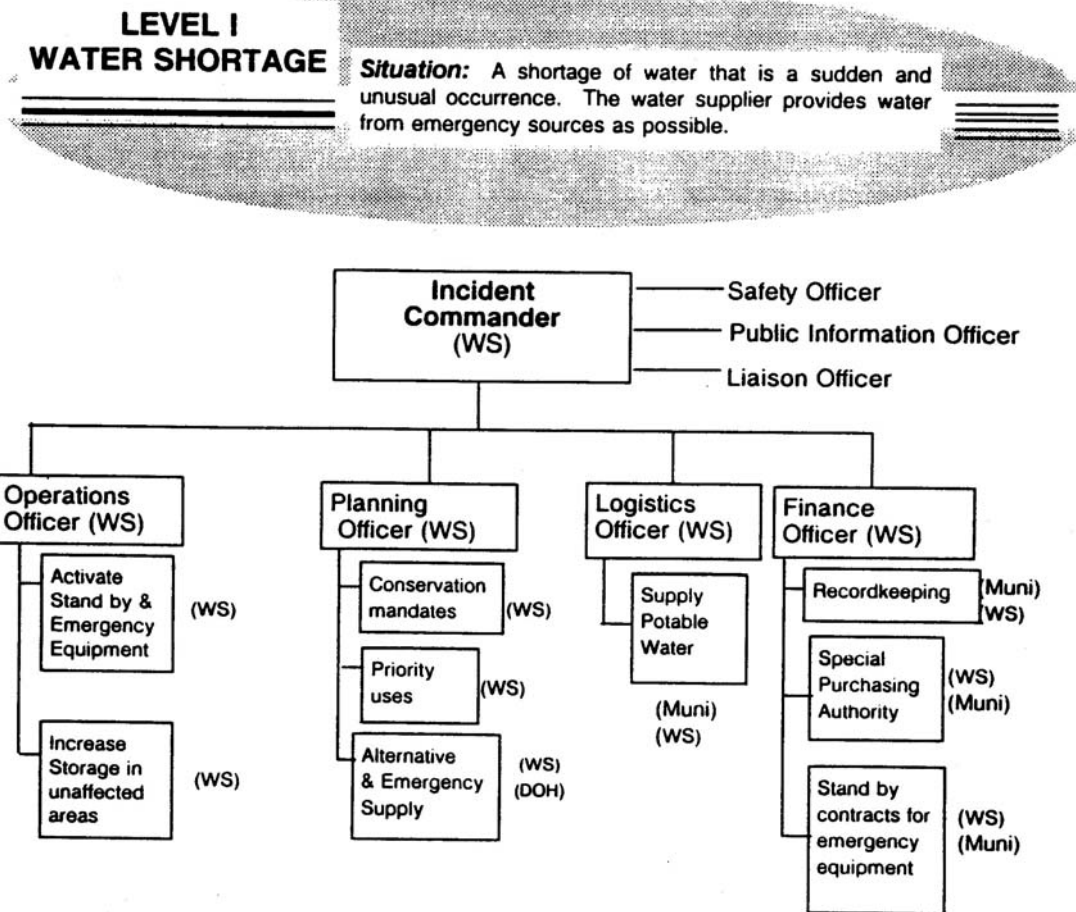
### **INCIDENT COMMANDER OPERATIONS, PLANNING**

### **General Manager or Superintendent LOGISTICS & FINANCE OFFICER**

General Manager or Superintendent, (24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)

- Implement emergency operations response plan for supplying potable water to affected customers.
- Activate any emergency equipment needed to maintain an adequate flow of safe potable water to the community.
- Determine priority uses and implement water conservation plans as appropriate.
- Increase water storage in unaffected areas so that stored water is available to be redirected if needed.
- Initiate stand-by contracts for emergency equipment and maintain accurate records of costs and expenses.
- Consider alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Maintain accurate records of costs and expenses.

Figure 723-4(13): Level One Water Shortage



**Mobilize:** Water supplier and municipal resources.

**Note:** A water shortage may result from a variety of incidents including contamination, power or mechanical failure, a hazardous materials release or other event. The PUC should be notified of shortages affecting regulated utilities.

## **RI WATER RESOURCES BOARD [WRB]**

available to coordinate activities between water suppliers and assist in overall coordination of the response if necessary

**General Manager**

**222-2217**

## **MUNICIPAL GOVERNMENT**

**Telephone**

**Chief Elected Official**

Issue special purchasing authority as necessary for emergency response. In situations where a water system is owned by a municipality some of the functions itemized under water supplier may be assumed by officials within municipal government.

## **RI DEPARTMENT OF HEALTH [DOH]**

**Telephone**

**Chief, Drinking Water Quality  
(24 hour) 272-5952  
(office hours) 222-6867**

- Approve alternate and emergency potable water sources if needed to supplement supply.

## **LEVEL II WATER SHORTAGE**

A level II emergency is a shortage of water that is beyond the response capability of the water supplier. The water shortage may be the result of a variety of incidents including contamination, mechanical or power failure, a hazardous materials release, or other event, and often results in a local declaration of a water emergency depending upon the number of people affected or the extent of available resources. Customers affected by the water shortage may receive temporary potable water at designated locations throughout their community.

## **WATER SUPPLIER**

**INCIDENT COMMANDER  
OPERATIONS**

**General Manager or Superintendent  
PLANNING & FINANCE OFFICER  
General Manager or Superintendent**

**(24-hour telephone numbers for large water suppliers are listed in the *Emergency Resource Directory for Water Supply Management*)**

- Implement emergency response plan of operations for supplying potable water to affected customers.
- Activate any emergency equipment needed to maintain an adequate flow of safe potable water to the community.
- Determine priority uses and implement water conservation plans as appropriate.
- Increase water storage in unaffected areas so that stored water is available to be redirected if needed.

- Initiate stand-by contracts for emergency equipment and maintain accurate records of costs and expenses.
- Consider alternate potable water sources if necessary to supplement supply. Sources requiring DOH approval include emergency interconnections with other approved systems, water tank trailers, or bottled water.
- Examine additional treatment methods and confer with the Department of Health for use and approval.

## **MUNICIPAL GOVERNMENT**

### **Telephone**

### **Chief Elected Official**

- Enable special purchasing authority as necessary for prompt emergency response.
- In situations where a water system is owned by a municipality, some of the functions itemized under water supplier may be assumed by officials within municipal government.

## **RI WATER RESOURCES BOARD [WRB]**

available to coordinate activities between water suppliers and assist in overall coordination of the response if necessary

### **General Manager**

**222-2217**

## **RI EMERGENCY MANAGEMENT AGENCY [RIEMA] LOGISTICS OFFICER RIEMA**

### **Director**

### **Telephone**

**(24 hours) 946-9996  
(alt. # ARI-sPIL) 274-7745**

- Maintain a central communications center, and activate mobile communication van for on-site assistance.
- Broadcast special instructions over the RI Emergency Broadcast System (EBS), if needed.
- Determine need for and coordinate federal assistance.
- Coordinate acquisition and transport of water from other sources.
- Coordinate acquisition of equipment and supplies needed to respond promptly to emergency conditions.
- Maintain contact with the Governor's office and appraise additional needs.

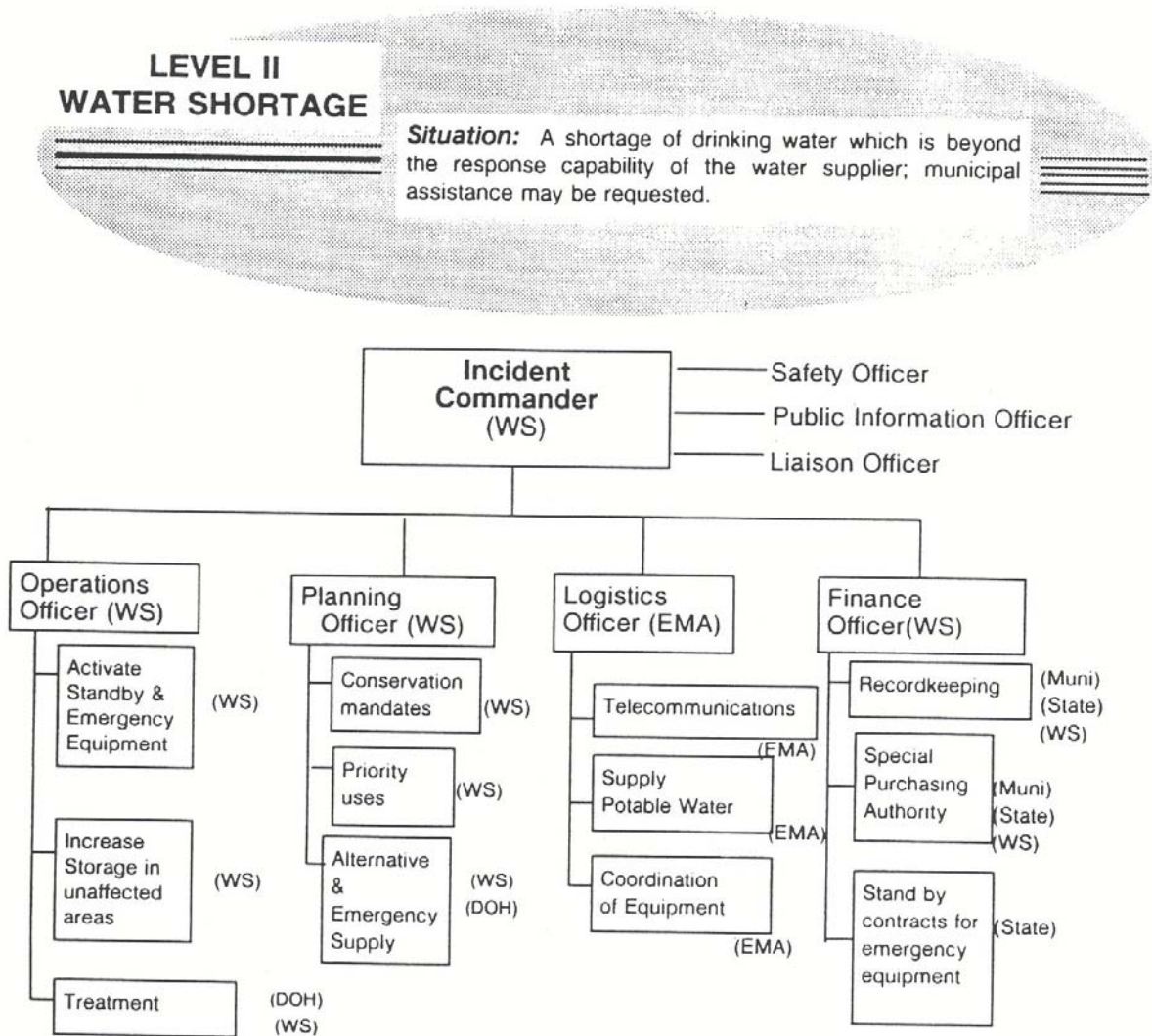
**RI DEPARTMENT OF HEALTH [DOH]**

**Telephone.**

**Chief, Drinking Water Quality  
(24 hour) 272-5952  
(office hours) 222-6867**

- Oversee testing and, if necessary, test water supplies; approve alternate and emergency potable water sources if necessary to supplement supply.
- Establish a water quality monitoring system to ensure public health.
- Keep the public informed regarding health risks associated with the emergency through health advisories, press conferences, and news announcements; affected areas should be clearly identified for the media.
- As the emergency progresses, approve of new or supplemental treatment measures employed by water suppliers.
- Maintain contact with the municipality and Governor's office on need for declaration of emergency status, and act as key liaison maintaining awareness of all transpiring activities.
-

Figure 723-4(14) Level Two Water Shortage



**Mobilize:** Water supplier, municipal resources, RIEMA, DOH and all other resources as needed.

**Note:** A water shortage may result from a variety of incidents including contamination, power or mechanical failure, a hazardous materials release or other event. May result in local declaration of a water emergency depending upon the number of people affected and the extent of municipal and state resources. PUC notification is required for regulated water suppliers.